

July 1976

*A special issue dealing with
America's immediate future*

Smithsonian

A look into our
third century



The communications industry has hardware
that can revolutionize our lives (p. 78)

Smithsonian

Secretary of the Smithsonian Institution
S. Dillon Ripley

Editor Edward K. Thompson

Board of Editors Ralph Backlund, Grayce
Northcross, James K. Page jr., Edwards Park,
Richard L. Williams

Associate Editors Marlane Liddell,
Bennett Schiff, Jane Scholl, John P. Wiley jr.

Picture Associate Caroline Despard

Assistant Editors Joyce McCarten, Dee
McRae, Donna Reifsnider, Meredith Riegle,
Marilou Vaughan

Advertising Director Thomas H. Black

General Manager Joseph J. Bonsignore

Production Nannie Shanahan

Business Carey O. Randall

Circulation-Promotion Director Anne Keating

Board of Regents, Smithsonian Institution

Ex Officio

Chief Justice of the United States

Warren E. Burger, Chancellor

Vice President of the United States

Nelson A. Rockefeller

Appointed by the President of the Senate

Honorable Henry M. Jackson

Honorable Frank E. Moss

Honorable Hugh Scott

Appointed by the Speaker of the House

Honorable Elford A. Cederberg

Honorable George H. Mahon

Honorable Sidney R. Yates

Appointed by a Joint Resolution of Congress

Mr. John Paul Austin

Dr. John Nicholas Brown

Dr. William A. M. Burden

Dr. Robert F. Goheen

Dr. Murray Gell-Mann

Dr. Caryl P. Haskins

Honorable A. Leon Higginbotham jr.

Mr. Thomas J. Watson jr.

Mr. James E. Webb

National Board of the Smithsonian Associates

Hon. George C. McGhee, Chairman; Mr. Robert O.

Anderson, Mr. William S. Anderson, Mr. Harry Hood

Bassett, Mr. Henry C. Beck jr., Mr. Keith S. Brown,

Mr. Richard P. Cooley, Mr. Joseph F. Cullman 3rd,

Mr. Thomas M. Evans, Hon. Leonard K. Firestone,

Mr. Charles T. Fisher III, Mr. Alfred C. Glassell jr.,

Mrs. David L. Guyer, Mr. Henry J. Heinz II,

Mr. William A. Hewitt, Hon. John N. Irwin II,

Mr. Lewis A. Lapham, Mrs. Robert A. Magowan,

Mrs. Robert S. McNamara, Mr. Scott McVay,

Dr. Ruben F. Mettler, Mr. John R. Norton III,

Mrs. Dudley Owen, Mr. Charles M. Pigott,

Mr. George S. Pillsbury, Mr. Francis C. Rooney jr.,

Mr. Merritt Kirk Ruddock, Mr. Arthur A. Seeligson jr.,

Mr. Thomas J. Watson jr., Mr. James O. Wright

Table of Contents

COVER: Future communications hardware may deliver our newspapers, read our mail, manage our business and arrange face-to-face visits with friends (p. 78).

Illustration by John Huehnergarth

6	The view from the castle: Secretary Ripley believes Americans should face future with humor and optimism
10	Phenomena on the frontiers of science by James K. Page jr.
20	What will go on around the Mall by Edwards Park
24	Picture credits
26	SMITHSONIAN presents a special issue to celebrate the beginning of America's third century
28	The pendulum swings as it becomes more apparent that Americans can cross at least one more river By Rod MacLeish
34	The United States can keep its own economic growth and continue to lead the world—if it wishes By Norman Macrae
42	Perhaps the answer is to think small as our industrial society searches for "appropriate technologies" By Wilson Clark
50	Franklin and Jefferson return as ghosts in 20th century By Edwards Park
52	Unfortunately, we must decide which species will share our rapidly depleting planet and which will disappear Text by Thomas Lovejoy, paintings by Jacob Knight
60	Einsteins of the future probably will not find the freedom of the past in scientific research laboratories By Daniel S. Greenburg, drawings by Stan Mack
70	Never before has humankind had to face the problem of feeding so many people with so little food By Georg Borgstrom
78	So you think that television is hot stuff? Just wait and see what's coming your way Text by Erik Barnouw, drawings by John Huehnergarth
86	Predictive medicine, not far off, is expected to place more of our health care in our own hands Text by Maya Pines, photographs by Peter Angelo Simon
92	Plutonium—the "free" answer to our energy crisis or an invitation to a possible catastrophe By Peter Gwynne
100	Urban renewal in Atlanta is working because more power is being given to the neighborhood citizens Text by Charles E. Little, photographs by William A. Allard
108	By tapping the inner resources of the individual, new opportunities will open up for "underdeveloped" America By David E. Lilienthal
116	Books: some recommendations
128	Additional reading
132	A whimsical look at ecoliving put into everyday life By Jan Adkins

The view from the castle



History proves that there are no snug harbors, Americans, sometimes cynical, should face the future with humor and optimism

This is July, not just any July but *the* 200th. My own feeling is that it is the month to look forward, not back, and this special issue of SMITHSONIAN shows that the editors share this view. I believe we should contemplate the future with ease and good humor.

If this nation has managed so far, it is not because we have now reached a snug harbor and can drop anchor, safe from stormy seas. History makes a mockery of that. But if we look forward, let us do it with confidence supported by a steady view, with equanimity and not anxiety. That is why I speak of ease and good humor.

We gain nothing by deploring the past, wallowing in our failures of leadership or the evidence of venality and corruption that continue to be flaunted in our daily ration of the news. As Thomas Jefferson wrote (in 1807), "I really look with commiseration over the great body of my fellow citizens who, reading newspapers, live and die in the belief that they have known something of what has been passing in the world in their time; whereas, the accounts they have read in newspapers are just as true a history of any other period of the world as of the present, except that the real names of the day are affixed to their fables."

Americans enjoy being cynical, especially about government, and they tend to assume, sometimes with an undercurrent of piousness, that corruption—at least for some—is here to stay. But Americans have enormous resilience. When one considers the state of our country 200—nay 100—years ago, the distance that we

have traversed is stupendous. Poverty, disease, lack of communication and transportation—today, compared with the past, we are at a level of security and technological knowledge never before equaled.

We should take great heart in all this liberation from drudgery and pain, as Philip Abelson recently editorialized in *Science*. And in taking heart, we must retain our sense of balance and face ahead. In this I find museums a wonderful comfort. In a nutshell, in a microcosm, they tell us who we are and where we have come from, as our new exhibits in two of the museums on the Mall demonstrate: one showing where our pride and our thoughts resided in 1876 (SMITHSONIAN, May 1976); the other, "A Nation of Nations" in the National Museum of History and Technology, which shows the great pilgrimage to this country, the saga of immigration, of which we are the fruit.

As Joseph Ewan wrote in his introduction to a library exhibition in 1972, "Museums are too often looked upon as cemeteries of the sciences, but those who live and work in them know them to be a collection of measuring devices to determine from the preservation of observed facts what is new and different."

I am constantly reminded in these days that the museums, especially our newest, the Air and Space Museum (SMITHSONIAN, June 1976), serve as a prelude to the future, a future to be viewed with conviction, a future which has untapped resources to be developed (see David Lilienthal, p.108), and the certain knowledge that we all have a place in it.

There is a mood afoot in this nation today for a return to friendship, to confidence and to optimism for the future. I'll vote for that.

S Dillon Ripley

Sylvania Gro-Lux lamps turn watts into flowers.

Of all the rainbow of colors in sunlight, plants like a certain combination of red and blue best. Red light alone makes them tall and spindly. Blue light alone causes low, stocky growth. But together the result is beautiful.

At GTE Sylvania we developed a fluorescent lamp that puts out just the right color balance plants go for. We call it the Gro-Lux® lamp.

We went further and developed a simple, good-looking fixture that makes it convenient to grow plants in your home. It has a single Gro-Lux lamp and an adjustable reflector for varying the light.

To 23 million people, GTE is the phone company. Now we're in another growth area—flowers.

And that's nice, because it goes so well with the way we think of ourselves, which is:

"GTE—a growing concern for your growing needs."

OUR SUNNY SIDE

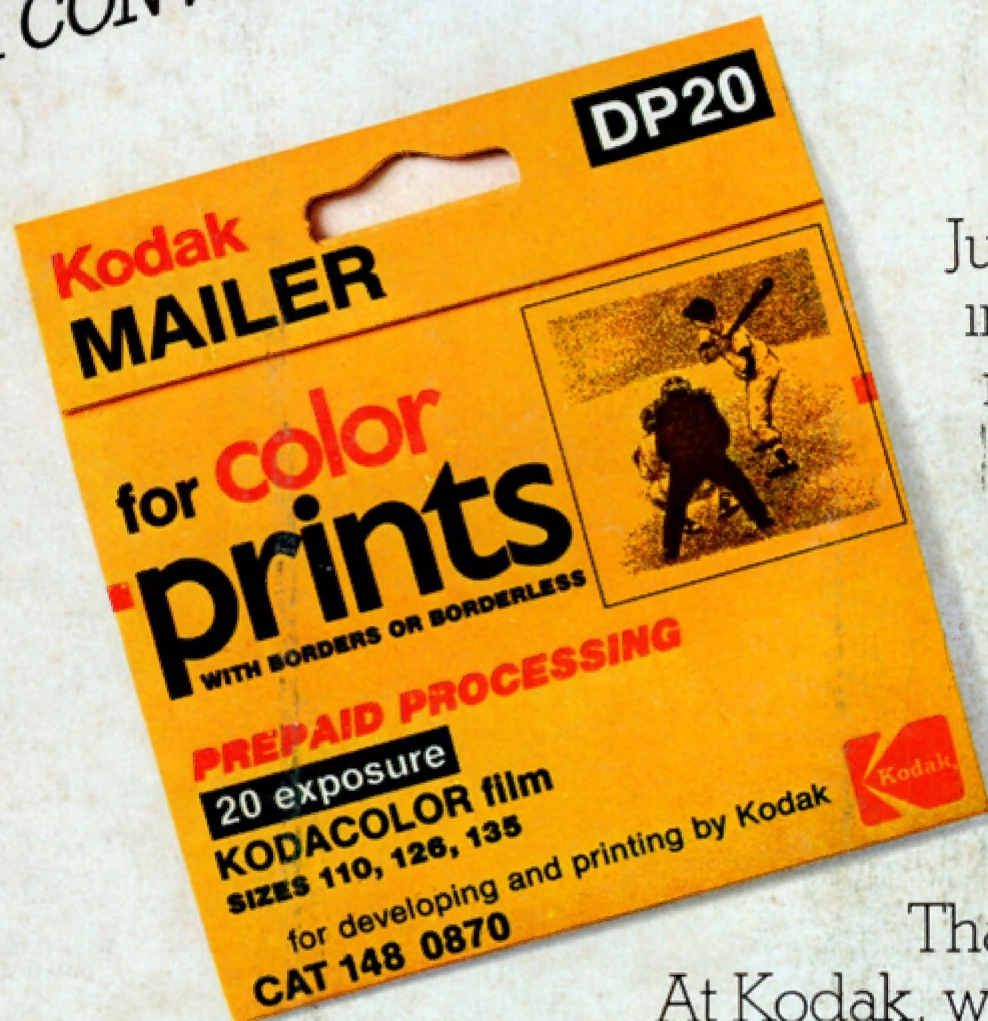
SYLVANIA LIGHTING

GTE





FOR CONVENIENT KODAK PROCESSING, GO FIRST CLASS.



Just put your Kodak color film in a Kodak mailer and mail it to Kodak.

Kodak will mail your slides, prints or movies back to you. You can have them delivered right to your own home.

That's convenient.

That's First Class.

At Kodak, we are dedicated to processing your Kodak film carefully. Like all quality processors, we take pride in our work. And that pride shows up in your pictures.

So, the next time you buy Kodak film, pick up some Kodak mailers. And start going First Class — to Kodak.

KODAK MAILERS

